

Amendment to Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 - 18. (Canceled)
19. (Previously presented) An electronic apparatus, comprising:

an electrical power source; and

a heating device electrically connected to said electrical power source such that current may be transmitted through a portion thereof, said heating device having electrical resistivity of 1,500 micro-Ohm-cm or greater, flexural strength of at least about 1,500 psi, and a density of about 1.5 to 1.75 g/cc.
20. (Previously presented) The apparatus of Claim 19, wherein said heating device has a thermal conductivity of less than or equal to 10 BTU/hr-ft-.degree. F.
21. (Previously presented) The apparatus of Claim 20, wherein said heating device has an electrical resistivity of over 3,000 micro-Ohm-cm.
22. (Previously presented) The apparatus of Claim 19, wherein said heating device has an electrical resistivity of over 3,000 micro-Ohm-cm.
23. (Previously presented) The apparatus of Claim 19, wherein said heating device is a soldering iron tip.
24. (Previously presented) The apparatus of Claim 23, wherein said soldering iron tip includes first and second electrodes.
25. (Previously presented) The apparatus of Claim 19, wherein said apparatus is a soldering iron.

26. (Previously presented) The apparatus of Claim 19, wherein the heating device includes graphite.

27. (Previously presented) The apparatus of Claim 19, wherein the electrical power source includes at least one battery.

28. (Previously presented) The apparatus of Claim 19, further comprising a body constructed of a heat resistant material.

29. (Previously presented) A portable electronic device, comprising:
a body;
an electrical power storage source associated with said body, said electrical power storage source including positive and negative terminals; and
a heating element associated with said body, said heating element connected to said positive or negative terminal, wherein said heating element is constructed of a material having electrical resistivity of 1,500 micro-Ohm-cm or greater, flexural strength of at least about 1,500 psi, and a density of about 1.5 to 1.75 g/cc.

30. (Previously presented) The device of Claim 29, wherein said body is constructed of a heat resistant material.

31. (Previously presented) The device of Claim 29, wherein said electrical power storage source includes at least one battery.

32. (Previously presented) The device of Claim 29, wherein said heating element has a thermal conductivity less than or equal to 10 BTU/hr-ft-.degree. F.

33. (Previously presented) The device of Claim 29, wherein said heating element has an electrical resistivity of over 3,000 micro-Ohm-cm.

34. (Previously presented) The device of Claim 33, wherein said heating element has a thermal conductivity of less than or equal to 10 BTU/hr-ft-.degree. F.

35. (Previously presented) The device of Claim 29, wherein the heating element includes graphite.

36. (Previously presented) The device of Claim 29, wherein said device is a soldering iron.

37. (Previously presented) A device comprising electrical transmission structure and at least one heating element electrically connected to said electrical transmission structure, said heating element having an electrical resistivity of 1,500 micro-Ohm-cm or greater, flexural strength of at least about 1,500 psi, and a density of about 1.5 to 1.75 g/cc.

38. (Previously presented) The device of Claim 37, wherein said heating element has a thermal conductivity less than or equal to 10 BTU/hr-ft-.degree F.

39. (Previously presented) The device of Claim 38, wherein said heating element has an electrical resistivity of over 3,000 micro-Ohm-cm.

40. (Previously presented) The device of Claim 37, wherein said heating element has an electrical resistivity of over 3,000 micro-Ohm-cm.

41. (Previously presented) The device of Claim 37, wherein said device is a soldering iron.

42. (Previously presented) The device of Claim 37, wherein said heating element includes graphite.

43. (Previously presented) An electronic circuit comprising an electrical power source coupled in electrical communication to at least one heating element, wherein said heating

element has an electrical resistivity of 1,500 micro-Ohm-cm or greater, flexural strength of at least about 1,500 psi, and a density of about 1.5 to 1.75 g/cc.

44. (Previously presented) The electronic circuit of Claim 43, wherein said heating element has a thermal conductivity less than or equal to 10 BTU/hr-ft-.degree. F.

45. (Previously presented) The electronic circuit of Claim 44, wherein said heating element has an electrical resistivity of over 3,000 micro-Ohm-cm.

46. (Previously presented) The electronic circuit of Claim 43, wherein said heating element has an electrical resistivity of over 3,000 micro-Ohm-cm.

47. (Previously presented) The electronic circuit of Claim 43, wherein said electrical power source includes at least one battery.

48. (Previously presented) The electronic circuit of Claim 43, wherein said heating element includes graphite.

49. (Previously presented) An electronic apparatus, comprising:
an electrical power source; and
a heating device electrically connected to said electrical power source such that current may be transmitted through a portion thereof, said heating device having electrical resistivity of 1,500 micro-Ohm-cm or greater and a density of about 1.5 to 1.75 g/cc.

50. (Previously presented) The apparatus of Claim 49, wherein said heating device has an electrical resistivity of over 3,000 micro-Ohm-cm.

51. (Previously presented) The apparatus of Claim 49, wherein said heating device is a soldering iron tip.

52. (Previously presented) The apparatus of Claim 51, wherein said soldering iron tip includes first and second electrodes.

53. (Previously presented) The apparatus of Claim 49, wherein said apparatus is a soldering iron.

54. (Previously presented) The apparatus of Claim 49, wherein the heating device includes graphite.

55. (Previously presented) The apparatus of Claim 49, wherein the electrical power source includes at least one battery.

56. (Previously presented) A portable electronic device, comprising:
a body;
an electrical power storage source associated with said body, said electrical power storage source including positive and negative terminals; and
a heating element associated with said body, said heating element connected to said positive or negative terminal, wherein said heating element is constructed of a material having electrical resistivity of 1,500 micro-Ohm-cm or greater and a density of about 1.5 to 1.75 g/cc.

57. (Previously presented) The device of Claim 56, wherein said electrical power storage source includes at least one battery.

58. (Previously presented) The device of Claim 56, wherein said heating element has an electrical resistivity of over 3,000 micro-Ohm-cm.

59. (Previously presented) The device of Claim 56, wherein the heating element includes graphite.

60. (Previously presented) The device of Claim 56, wherein said device is a soldering iron.

61. (Previously presented) A device comprising electrical transmission structure and at least one heating element electrically connected to said electrical transmission structure, said heating element having an electrical resistivity of 1,500 micro-Ohm-cm or greater and a density of about 1.5 to 1.75 g/cc.

62. (Previously presented) The device of Claim 61, wherein said heating element has an electrical resistivity of over 3,000 micro-Ohm-cm.

63. (Previously presented) The device of Claim 61, wherein said device is a soldering iron.

64. (Previously presented) The device of Claim 61, wherein said heating element includes graphite.

65. (Previously presented) An electronic circuit comprising an electrical power source coupled in electrical communication to at least one heating element, wherein said heating element has an electrical resistivity of 1,500 micro-Ohm-cm or greater and a density of about 1.5 to 1.75 g/cc.

66. (Previously presented) The electronic circuit of Claim 65, wherein said heating element has an electrical resistivity of over 3,000 micro-Ohm-cm.

67. (Previously presented) The electronic circuit of Claim 65, wherein said electrical power source includes at least one battery.

68. (Previously presented) The electronic circuit of Claim 65, wherein said heating element includes graphite.

69. (New) A soldering tool comprising:

an electrical power storage source;

a heating device for providing solder connections; and

an electrical switch for selectively connecting the heating device to the electrical power storage source,

wherein, when the switch is closed, a first portion of the heating device is electrically connected to a positive terminal and a second portion of the heating device is electrically connected to a negative terminal of the power storage source for transmitting electricity to the heating device when solder material or a workpiece contacts both the first and second portions.

70. (New) The soldering tool of claim 69, wherein the first and second portions of the heating device are spaced apart.

71. (New) The soldering tool of claim 69, wherein, when the switch is opened, electricity is not transmitted to the heating device.

72. (New) The soldering tool of claim 69, wherein the electrical switch is disposed on a body of the solder tool for user operation.

73. (New) A cordless tool comprising:

a heating device; and

an electrical switch for selectively disabling the heating device in the cordless tool,

wherein the heating device has first and second electrodes electrically isolated from each other, and heat is conducted upon electrical connection of the electrodes while the heating device is enabled.

74. (New) The cordless tool according to claim 73, further comprising an electrical power storage source for providing electrical power to the heating device.

75. (New) The cordless tool according to claim 74,
wherein the electrical switch selectively disconnects the electrical power storage source from the heating device.

76. (New) The cordless tool according to claim 73, wherein the electrical power storage source is a battery.

77. (New) The cordless tool according to claim 73, further comprising a body, wherein the switch is disposed on the body and is adapted to be closed during stand-by operation.

78. (New) The cordless tool according to claim 73, further comprising a body, wherein the switch is disposed on the body and is adapted to be opened to prevent operation of the heating device.

79. (New) The cordless tool of claim 73, wherein the heating device includes a socket for receiving interchangeable solder tips.

80. (New) The cordless tool of claim 79, wherein a solder tip is removably affixed to the socket by friction fit.